- /
- **7. WHAT IF?** In Example 6, what is the probability that you and your friends choose different costumes if the store sells 20 different costumes?
- **8. BASKETBALL** A high school basketball team leads at halftime in 60% of the games in a season. The team wins 80% of the time when they have the halftime lead, but only 10% of the time when they do not. What is the probability that the team wins a particular game during the season?

### 10.5 EXERCISES

HOMEWORK KEY = WORKED-OUT SOLUTIONS on p. WS1 for Exs. 13, 25, and 39

**TAKS PRACTICE AND REASONING** Exs. 15, 32, 34, 41, 43, and 44

#### **SKILL PRACTICE**

- **1. VOCABULARY** Copy and complete: The probability that *B* will occur given that *A* has occurred is called the \_?\_ of *B* given *A*.
- **2. WRITING** *Explain* the difference between dependent events and independent events, and give an example of each.

## EXAMPLES 1 and 2

on pp. 717–718 for Exs. 3–15 **INDEPENDENT EVENTS** Events A and B are independent. Find the indicated probability.

3. 
$$P(A) = 0.4$$
  
 $P(B) = 0.6$   
 $P(A \text{ and } B) = ?$ 

**4.** 
$$P(A) = 0.3$$
  
 $P(B) = 0.4$   
 $P(A \text{ and } B) = ?$ 

5. 
$$P(A) = 0.25$$
  
 $P(B) = ?$   
 $P(A \text{ and } B) = 0.2$ 

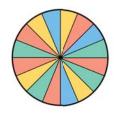
**6.** 
$$P(A) = 0.5$$
  
 $P(B) = ?$   
 $P(A \text{ and } B) = 0.1$ 

7. 
$$P(A) =$$
?  $P(B) = 0.8$   $P(A \text{ and } B) = 0.6$ 

**8.** 
$$P(A) = \underline{?}$$
  
  $P(B) = 0.9$   
  $P(A \text{ and } B) = 0.45$ 

**SPINNING A WHEEL** You are playing a game that involves spinning the wheel shown. Find the probability of spinning the given colors.

- **9.** green, then blue
- 10. red, then yellow
- 11. blue, then red
- **12.** yellow, then green
- (13.) blue, then green, then red
- 14. green, then red, then yellow



- **15. TAKS REASONING** Events *A* and *B* are independent. What is P(A and B) if P(A) = 0.3 and P(B) = 0.2?
  - $\bigcirc$  0.06
- **B** 0.1
- **(C)** 0.5
- **(D)** 0.6

#### **EXAMPLE 4**

on p. 719 for Exs. 16–25

# **DEPENDENT EVENTS** Events A and B are dependent. Find the indicated probability.

16. 
$$P(A) = 0.3$$
  
 $P(B|A) = 0.6$   
 $P(A \text{ and } B) = ?$ 

17. 
$$P(A) = 0.7$$
  
 $P(B|A) = 0.5$   
 $P(A \text{ and } B) = ?$ 

18. 
$$P(A) = 0.8$$
  
 $P(B|A) = ?$   
 $P(A \text{ and } B) = 0.32$ 

19. 
$$P(A) = 0.6$$
  
 $P(B|A) = ?$   
 $P(A \text{ and } B) = 0.45$ 

**20.** 
$$P(A) = \underline{?}$$
  
 $P(B|A) = 0.4$   
 $P(A \text{ and } B) = 0.2$ 

**21.** 
$$P(A) = 0.7$$
  $P(B|A) = ?$   $P(A \text{ and } B) = 0.63$